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DOCKET NO. 2003.11.007.WS0
U.S. SERIAL NO. 10/811,432
PATENT**REMARKS**

Claims 1-41 were originally filed in the present application.

Claims 1-41 are pending in the present application.

Claims 1-41 were rejected in the December 28, 2006 Office Action.

No claims have been allowed.

I. CLAIM REJECTIONS -- 35 U.S.C. § 102

Claims 1-3, 5-7, 16-18, 20-22 and 31-35 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication No. 2002/0146983 to *Scherzer et al.*, hereinafter ("Scherzer").

This rejection is respectfully traversed.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. MPEP § 2131, p. 2100-76 (8th ed., rev. 4, October 2005) (*citing In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990)). Anticipation is only shown where each and every limitation of the claimed invention is found in a single prior art reference. *Id.* (*citing Verdegaa Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987)).

Each independent claim requires receiving from a mobile station both a pilot strength signal and a power control signal. Nothing in Scherzer, or any other art of record, teaches or suggests both these signals. The Examiner appears to believe that Scherzer's paragraph 0138, reproduced below

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and in a previous response, teaches the claimed power control signal. That paragraph indicates that the relevant standards allow "for mobile unit feedback, such as the mobile unit providing a pilot measurement message, for power level control." This only teaches that the "feedback" can include a "pilot measurement message" that the base station can then use for power level control. Scherzer does not indicate exactly what the "pilot measurement message" is, but it could arguably correspond to the claimed "pilot strength signal." It certainly is not a power control signal, as used in the application, in that it does not purport to control anything.

Likewise, Scherzer's paragraph 0007 only generally describes that a BTS "may operate to receive information from mobile units with respect to a received signal as experienced by the mobile unit in order to make determinations as to the transmit power level to be utilized in communications with this particular mobile unit." This appears to teach the same "pilot measurement message" as described in paragraph 0138. While the BTS may "make determinations as to the transmit power" according to this information, it is clear that this "information... with respect to a received signal" is not a "power control signal" as claimed.

In contrast, the specification describes, *e.g.*, at paragraph 012, that the power control signal is generated by the select mobile station in response to the received traffic signal to request the base station to increase or decrease the power of the traffic signal. That is, it is specifically for controlling the power of the traffic signal. Nothing in any art of record teaches or suggests the use of a power control signal as claimed.

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Independent claim 1 requires that the downlink traffic beam has "a beam width set as a function of said pilot strength signal and said power control signal". Independent claims 16 and 31 include similar language. This feature is not taught or suggested by Scherzer.

Scherzer does teach, at paragraph 0138,

For example, mobile units operating according to IS-95 and GSM protocols allow for mobile unit feedback, such as the mobile unit providing a pilot measurement message, for power level control. The present invention may operate with this feedback information in determining beam characteristics in cooperation with the protocol's operation or separate therefrom.

As can be seen, while this passage does mention beam characteristics, it does not teach or suggest that the beam width can or should be set as a function of pilot strength signal and a power control signal, each of which is received from a mobile station, as claimed. The "power level control" referenced by Scherzer clearly is not a power control signal received from the mobile station, as described above.

Even if the "received signal" in Scherzer's paragraph 0007 were considered to be one or another of the claimed "pilot strength signal" or "power control signal", Scherzer only teaches that it is used "in order [for the BTS] to make determinations as to the transmit power level". There is no teaching or suggestion that it is used for setting the beam width, and certainly not in conjunction with the other claimed signal.

Similarly, even if the "pilot measurement message" in Scherzer's paragraph 0138 were considered to be the claimed "pilot strength signal", this is the only specific "feedback information" that Scherzer teaches may be used "in determining beam characteristics." There is no teaching or

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suggestion that it is used in conjunction with any "power control signal", and certainly not that it is used with the "received signal" of paragraph 0007 (if that is indeed even a different signal).

The Examiner responds by citing paragraph 0138, above, and the paragraphs below:

[0009] Further capacity and/or signal quality improvement may be provided in communication systems, such as the aforementioned point to multipoint wireless communication systems, through the use of directional antenna beams in the communication links. For example, adaptive array antennas may be utilized to provide enhanced signal quality through advanced "beam forming" techniques as shown and described in the above referenced patent application entitled "Practical Space-Time Radio Method for CDMA Communication Capacity Enhancement." For example, angle of arrival (AOA) information determined from a received signal at an adaptive array antenna may be utilized in accurately determining beam forming coefficients for use in the reverse link in order to provide improved capacity.

[0139] For example, in a system utilizing a protocol implementing power level control, such as IS-95, the present invention may operate to confirm that the power level adjustment is not the source of and/or the solution to the presently measured channel characteristics to avoid anomalous operation associated with each control loop attempting to address a same observed phenomena. For example, the aforementioned power control techniques often attempt to redress increases in detected error rates through increased transmit power levels. Accordingly, a preferred embodiment of the present invention operates to obtain channel characteristic information, such as the aforementioned frame error reports, just after a change in beam configuration before a power control loop has reacted to redress any resulting channel characteristic changes, such as an increase or decrease in frame error rate. A timing diagram illustrating the timing of a frame error report as may be used according to this embodiment of the present invention is shown in FIG. 6. As shown in FIG. 6, the earlier frame error report is preferably utilized according to this embodiment of the invention while the later frame error report is ignored.

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[0140] Although the preferred embodiment has been described above with respect to providing beam forming in the forward link, it should be appreciated that communication link optimization according to the present invention is not limited to beam forming. For example, a set of complex weights may be applied to the signals of an antenna array to provide a signal optimized for experienced channel conditions without forming a typical antenna beam but rather a plurality of signals which constructively combine at a given point in the system to provide a desired communication link. Moreover, it should be appreciated that the concepts of the present invention are not limited forward channel links and/or wireless communications, but may be applied to any communication channel in which the a communication link is to be optimized for channel conditions experienced without requiring a large amount of feedback information.

None of these additional paragraphs teach or suggests anything regarding the claimed power control signal, or that the beam width or characteristics should be set as a function of both the pilot strength signal and a power control signal, as claimed in each independent claim. The anticipation rejections are clearly factually deficient.

As all independent claims include a limitation not taught or suggested by Scherzer, all claims are allowable over Scherzer, and all anticipation rejections are traversed.

Applicant specifically notes the Examiner's unsupported "inherency" argument of with regard to claim 7. The Examiner states that "Scherzer inherently teaches the power control signal requests the base station to increase or decrease the power of the traffic signal. (Pages 15-16 [0139])." Paragraph 0139 is reproduced above. Paragraph 0139 does not teach a "power control signal", as claimed, at all. It does not teach any request to the base station at all. It certainly does not

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teach that this signal is necessarily present in Scherzer's system and that it necessarily includes the claimed request.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted, emphasis added).

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

There is no teaching or suggestion at all that these claimed elements are necessarily present in the Scherzer's system, as required by such an inherency argument. Further, the Examiner has completely failed to provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art, as he is required to do. The rejections based on inherency are therefore not only factually deficient, but legally deficient as well.

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Accordingly, the Applicant respectfully requests the Examiner to withdraw the § 102 rejection with respect to these claims.

CLAIM REJECTIONS -- 35 U.S.C. § 103

Claims 4 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scherzer in view of U.S. Patent No. 6,453,177 to *Wong, et al.*, hereinafter "Wong." Claims 8 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scherzer in view of U.S. Patent No. 6,148,208 to *Love*, hereinafter "Love." Claims 9, 10, 24, 25 and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scherzer in view of U.S. Patent No. 5,640,414 to *Blakeney II, et al.*, hereinafter "Blakeney." Claims 11-15, 26-30 and 37-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scherzer in view of Blakeney as applied to claim 9, and further in view of U.S. Patent Publication No. 2004/0023659 to *Xiao, et al.*, hereinafter "Xiao." The Applicant respectfully traverses these rejections.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142, p. 2100-133 (8th ed. rev. 4, October 2005). Absent such a *prima facie* case, the applicant is under no obligation to produce evidence of nonobviousness. *Id.* To establish a *prima facie* case of obviousness, three basic criteria must be met: *Id.* First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *Id.* Second, there must be a reasonable expectation of success. *Id.*

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Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *Id.* The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *Id.*

Applicant has reviewed these secondary references, and none of them are seen to teach or suggest the limitations of the independent claims discussed above. That is, neither Scherzer, Wong, Love, Blakeney, nor Xiao, nor any combination of these references, teaches or suggests a beam width that is set as a function of pilot strength signal and a power control signal, each of which is received from a mobile station, as claimed in each independent claim. None of them appear to teach the claimed power control signal at all.

Further, there appears to be significant problems with the Examiner's stated "motivations" to make the specific combinations and modification proposed. These can be addressed in detail on appeal, should that prove necessary.

As none of the cited art, alone or in combination, teaches or suggests the limitations of each independent claim, all claims distinguish over all art of record, and all rejections are traversed.

Accordingly, the Applicant respectfully requests the Examiner to withdraw the § 103 rejection with respect to these claims.

All rejections are traversed. Reconsideration and allowance are respectfully requested.

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PATENTSUMMARY

For the reasons given above, the Applicant respectfully requests reconsideration and allowance of the pending claims and that this application be passed to issue. If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *jmockler@munckbutrus.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

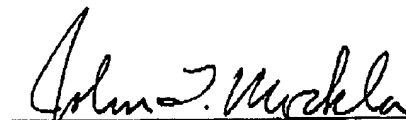
Respectfully submitted,

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